

## **FLOATING GATE NONVOLATILE MEMORY CIRCUITS AND METHODS**

### ABSTRACT

The present invention includes innovative circuits and methods for  
5 implementing nonvolatile memories. In one embodiment, the present invention includes a  
method of operating a nonvolatile memory in two phases. During a first time period, a  
voltage is applied across nonvolatile memory element. During a second time period, a  
voltage is coupled through at least one capacitor to charge pump the initial voltage to a level  
sufficient for programming or erasing the memory element. Innovative techniques are  
10 employed to ensure that other devices in the system do not experience voltages in excess of  
device breakdown voltages. Additionally, embodiments of the present invention may be  
implemented on a simple manufacturing process.

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